REMARKS

Applicants respectfully request that the above-identified application be re-examined.

The October 20, 2004, Office Action in the above-identified application rejected Claims 36, 37, and 46-52 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicants regard as the invention. Objections were specifically raised with respect to Claims 36, 37, and 46. In addition, Claims 1-35 and 38-45 were rejected under 35 U.S.C. § 102(b) as being fully anticipated by the teachings of U.S. Patent No. 6,647,269 (Hendrey et al.). Claims 1-35 and 36-45 were also rejected under 35 U.S.C. § 102(e) as being fully anticipated by the teachings of U.S. Patent No. 6,546,257 (Stewart). Claims 1, 2, 4-8, 12-32, 44, and 45 were rejected under 35 U.S.C. § 102(e) as being anticipated by the teachings of U.S. Patent No. 6,360,167 (Millington et al.). Claims 46-52 were indicated to be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. § 112, second paragraph, set forth in the Office Action.

This amendment amends Claims 1, 2, 14, 35-37, and 44-46. Claims 1, 2, and 14 have been amended to make the claims more particularly point out and distinctly claim the subject matter that applicants regard as their invention. Claims 35-37 have been amended to obviate the 35 U.S.C. § 112 objections noted in the Office Action. Likewise, Claim 46 has been amended to overcome the 35 U.S.C. § 112 objections noted in the Office Action. Claims 15 and 16 have been canceled. Claims 44 and 45 have been amended to change their multiple-dependency listing due to the cancellation of Claims 15 and 16.

Rejection Under 35 U.S.C. § 112

As noted above, the Office Action rejected Claims 36, 37, and 46-52 under 35 U.S.C. § 112. Claims 36 and 37 were specifically referred to in the rejection, as was Claim 46. Since Claim 35 includes language similar to that included in Claims 36 and 37, all three claims, i.e., Claims 35-37, have been amended in a manner designed to obviate the objection to the claim language. Specifically, Claims 35-37 have been modified to recite that the exposure value (Claim 35), reach value (Claim 36), and frequency value (Claim 37) are determined for each of the media displays that are sufficiently close enough to any of the plurality of locations that track the movement of a monitoring device to conclude that the locations match. Applicants submit that with this change, Claims 35-37 are no longer rejectable under 35 U.S.C. § 112, second paragraph, and, as a result, applicants request that the rejection of Claims 36 and 37 pursuant to this paragraph be withdrawn.

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With respect to Claim 46, the language of this claim has been amended to recite "matching said potential locations to said plurality of locations" and "determining for said potential locations whether said monitoring device . . . ." The latter change was suggested by the Examiner. Applicants respectfully submit that with these changes, Claim 46 is no longer rejectable under 35 U.S.C. § 112, and, hence, is allowable. More specifically, since Claims 46-52 were indicated to be allowable if the objection to Claim 46 was overcome, applicants respectfully submit that Claims 46-52 are now allowable without further comment.

Prior Art Rejection

As noted above, the Office Action rejected Claims 1-35 and 38-45 under 35 U.S.C. § 102(e) as being fully anticipated by the teachings of either Hendrey et al. or Stewart. Further, Claims 1, 2, 4-8, 12-32, 44, and 45 were rejected under 35 U.S.C. § 102(e) as being fully anticipated by the teachings of Millington et al. While applicants disagree with the rejection of the foregoing claims based on the teachings of the cited reference, in order to advance the prosecution of this application, independent Claims 1 and 14 have been amended so as to more particularly point out and distinctly claim the subject matter that applicants regard as their invention. Claims 15 and 16 have been canceled and various dependent claims have been amended to maintain appropriate dependencies. Prior to discussing in more detail the reasons why applicants believe that amended Claims 1 and 14 and the claims dependent therefrom (Claims 2-13 and 17-45) are clearly allowable, a brief description of applicants' invention and brief descriptions of the teachings of the cited and applied references are provided. The following discussions of applicants' invention and the cited and applied references are not provided to define the scope or interpretation of any of the claims of this application. Instead, these discussions are provided to help the United States Patent and Trademark Office better appreciate important claim distinctions discussed thereafter.

Applicants' Invention

Applicants' invention is directed to methods, apparatus, and computer-readable media for determining media display effectiveness. An example of media display is a billboard. Embodiments of applicants' invention are not interactive, i.e., they do not interact with the media displays whose effectiveness is being determined. Embodiments of applicants' invention do not communicate information to, or receive information from, the media displays whose effectiveness is being determined. No direct or indirect interaction occurs. Rather, embodiments of applicants' invention track the location of monitoring devices as respondents move along paths

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of travel. The paths of travel of said respondents are compared with the locations of media displays to determine media display effectiveness.

In one form, applicants' invention is directed to a computer-implemented method of determining media display effectiveness. As noted above, examples of media displays are billboards. The method comprises storing geo data in a **plurality of respondent monitoring** devices as the respondent monitoring devices move along respective paths of travel. At least a portion of the geo data is derived from a satellite positioning system ("SPS"). The stored geo data represents the movement of the respondent monitoring devices along the respective paths of travel. The stored geo data is downloaded from the plurality of respondent monitoring devices to a post processing server. The post processing server matches the location of a **plurality of media displays** to positions on the respective paths of travel represented by the geo data. The post processing server also rates the effectiveness of the plurality of media displays utilizing the matches between the plurality of media display locations and the positions on the respective paths of travel represented by the geo data.

In another form, applicants' invention is directed to a computer-implemented method of determining media display (i.e., billboard) effectiveness. The method comprises obtaining geo data specifying a plurality of locations that track the movement of a monitoring device and an associated respondent, at least a portion of the geo data being derived from a satellite positioning system ("SPS"). The method further includes storing the geo data in the monitoring device and downloading the stored geo data to a post processing server. The post processing server compares the **plurality** of locations that track the movement of the monitoring device with a **plurality** of media display locations. The post processing device further determines if the monitoring device was exposed to a media display based on whether any of the plurality of locations that track the movement of the monitoring device and the plurality of media display locations are sufficiently close enough to conclude that the locations match.

Hendrey et al. (U.S. Patent No. 6,647,269)

Hendrey et al. is directed to a method and system for analyzing advertisements delivered to a mobile unit. Accurate location information about a mobile telecommunication transceiver is used to generate advertising content responsive to a user approaching the location of a business. The advertising content is tailored to the user's preferences and the particular business involved. Once the advertising content is delivered, the position of the user is monitored to track the effectiveness of the advertisement. If the user enters the business store and/or makes a purchase, the advertisement is logged as having been successful. If the user does not enter the store within

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a predetermined period of time, or moves away from the store, the advertisement is considered to have been ineffective.

Hendrey et al. does not disclose storing geo data in a plurality of respondent monitoring devices as the respondent monitoring devices move along respective paths of travel. Nor does Hendrey et al. disclose downloading the geo data stored in a plurality of respondent monitoring devices to a post processing server that matches the location of a plurality of media displays to positions on the respective paths of travel represented by the geo data and rates the effectiveness of the plurality of media displays utilizing the matches between the plurality of media display locations and the position along the respective paths of travel represented by the geo data. While Hendrey et al. does disclose an advertising tracking system that includes a location tracking subsystem (Col. 2, line 15), the tracking subsystem does not store geo data and download stored geo data to a post processing server. Nor does the tracking system provide a post processing server that matches locations and rates media display effectiveness using the matching. Rather, the tracking subsystem notifies a tracking manager when a user is near a particular business that desires to advertise for customers. The tracking subsystem may also notify the tracking manager when a user has entered a particular business store location (Col. 4, lines 23-26).

Nor does Hendrey et al. disclose obtaining geo data specifying a plurality of locations that track the movement of a monitoring device and an associated respondent, storing the geo data in the monitoring device, downloading the stored geo data to a post processing server that compares the plurality of locations that track the movement of the monitoring device with a plurality of media display locations, and determining if the monitoring device was exposed to a media display based on whether any of the plurality of locations that tracked the movement of the monitoring device and the media display locations are sufficiently close enough to conclude the locations match.

Stewart (U.S. Patent No. 6,546,257)

Like Hendrey et al., Stewart is an interactive system. More specifically, Stewart is directed to a method of providing geographically sensitive promotional information to a mobile unit having a transmitter that can transmit position location information. The method includes receiving from the mobile unit at least one transmission that provides information on multiple locations of the mobile unit over a span of time and an identification of the mobile unit. A repeated travel pattern of the mobile unit is determined based on the multiple locations. From a database of locations, promotional information is associated with a location that is within a predetermined position relative to the repeated travel pattern is retrieved. The promotional information is provided to the mobile unit.

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While Stewart does disclose a single transmission that includes multiple location information recorded over time, here the similarity between Stewart and the present invention ends. Stewart does not disclose storing geo data in a plurality of respondent monitoring devices as the respondent monitoring devices move along respective paths of travel. Nor does Stewart disclose downloading the geo data stored in the plurality of respondent monitoring devices to a post processing server that matches the location of a plurality of media displays to positions on the respective paths of travel represented by the geo data and rates the effectiveness of the plurality of media displays utilizing the matches between the plurality of media display locations and the positions along the respective paths of travel represented by the geo data. Nor does Stewart disclose obtaining geo data specifying a plurality of locations that track the movement of a monitoring device and an associated respondent, storing the geo data in the monitoring device, and downloading the stored geo data to a post processing server that compares the plurality of locations that track the movement of the monitoring device with a plurality of media display locations and determines if the monitoring device was exposed to a media display based on whether any of the plurality of locations that track the movement of the monitoring device and the media display locations are sufficiently close enough to conclude that the locations match.

Millington et al. (U.S. Patent No. 6,360,167)

Millington et al. discloses a vehicle navigation system with location-based multi-media annotations. More specifically, Millington et al. is directed to a navigation system that provides multimedia annotations based upon the present location of the vehicle. The multi-media annotations may comprise advertising, text, or other information entered by a user and associated with a specific location or locations.

Millington et al. is clearly less pertinent to the present invention than either Hendrey et al. or Stewart. Millington et al. clearly does not disclose methods for determining media display effectiveness of the type contemplated by the present invention. More specifically, Millington et al. does not disclose storing geo data in a plurality of respondent monitoring devices as the respondent monitoring devices move along respective paths of travel. Nor does Millington et al. disclose downloading the geo data stored in the plurality of respondent monitoring devices to a post processing server that matches the location of a plurality of media displays to positions on the respective paths of travel represented by the geo data and rates the effectiveness of the plurality of media displays utilizing the matches between the plurality of media display locations and the positions along the respective paths of travel represented by the geo data. Nor does Millington et al. disclose obtaining geo data specifying a plurality of locations that track the movement of a monitoring device and an associated respondent, storing the geo data in the

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monitoring device, and downloading the stored geo data to a post processing server that compares the plurality of locations that track the movement of the monitoring device with a plurality of media display locations and determines if the monitoring device was exposed to a media display based on whether any of the plurality of locations that track the movement of the monitoring device and the media display locations are sufficiently close enough to conclude that the locations match.

In the Claims:

Claim 1, as amended, reads as follows:

> 1. A computer-implemented method of determining media display effectiveness, the method comprising:
>
> (a) storing geo data in a plurality of respondent monitoring devices as said respondent monitoring devices move along respective paths of travel, at least a portion of said geo data derived from a satellite positioning system ("SPS"), said stored geo data representing the movement of said respondent monitoring devices along said respective paths of travel; and
>
> (b) downloading said geo data stored in said plurality of respondent monitoring devices to a post processing server for:
>
> (i) matching the locations of a plurality of media displays to positions on said respective paths of travel represented by said geo data; and
>
> (ii) rating the effectiveness of said plurality of media displays utilizing said matches between said plurality of media display locations and said positions on said respective paths of travel represented by said geo data.

As noted above, neither Hendrey et al., Stewart, or Millington et al. discloses or even remotely suggests the subject matter of Claim 1. None of these cited references are, per se, directed to methods of determining media display effectiveness. While Hendrey et al. is to some extent directed to determining delivered advertising effectiveness, it is not directed to determining media display, e.g., billboard, effectiveness. While Stewart and Millington et al. provide advertisements, neither is directed to determining the effectiveness of the provided advertisements. More importantly, none of these references disclose storing geo data in a **plurality** of respondent monitoring devices as said respondent monitoring devices move along respective paths of travel, at least a portion of the geo data derived from a satellite positioning system ("SPS"), the stored geo data representing the movement of the respondent monitoring devices along said respective paths of travel. More specifically, while the three cited and applied references make various references to the use of satellite positioning systems, none of them

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disclose storing geo data in a plurality of respondent monitoring devices representing the movement of the respondent monitoring devices along respective paths of travel.

In addition, none of the cited and applied references teach downloading the geo data stored in the **plurality** of respondent monitoring devices to a post processing server that matches the location of a **plurality** of media displays to positions on said respective paths of travel represented by the geo data and rate the effectiveness of the **plurality** of media displays utilizing the matches between the **plurality** of media display locations and the positions along the respective paths of travel represented by the geo data. At best, Hendrey et al. discloses determining the effectiveness of delivered advertising (not media displays) of a single monitoring device when the monitoring device comes within the proximity of a single location, such as a store. While Stewart and Millington et al. are related to the providing of advertising, they are not directed to determining the effectiveness of the advertising, much less determining the effectiveness of media displays.

In view of the foregoing, applicants respectfully submit that Claim 1 and all of the claims dependent therefrom (Claims 2-13) are clearly allowable. Applicants further submit that dependent Claims 2-13 are allowable for additional reasons. For example, none of the cited and applied references disclose analyzing geo data to determine if geo data is erroneous and removing erroneous data from the geo data prior to matching the locations of a plurality of media displays to positions along paths of travel represented by the geo data (Claim 2). Nor do any of the cited and applied references teach rating the effectiveness of media displays by determining the reach and frequency of the media displays (Claim 3), or grooming geo data to enhance accuracy (Claim 6), or grouping the geo data in accordance with the demographics of the respondents (Claim 7). For these and other reasons, applicants respectfully submit that Claims 2-13 are allowable for reasons in addition to the reasons why Claim 1 is allowable.

As amended, the only other independent claim in this application indicated not to be allowable, Claim 14, reads as follows:

> 14. A computer-implemented method of determining media display effectiveness, the method comprising:
>
> (a) obtaining geo data specifying a plurality of locations that track the movement of a monitoring device and an associated respondent, at least a portion of said geo data derived from a satellite positioning system ("SPS");
>
> (b) storing said geo data in said monitoring device; and
>
> (c) downloading said stored geo data to a post processing server for:

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(i) comparing said plurality of locations that track the movement of said monitoring device with a plurality of media display locations; and

(ii) determining if said monitoring device was exposed to a media display based on whether any of said plurality of locations that track the movement of said monitoring device and said plurality of media display locations are sufficiently close enough to conclude that the locations match.

As briefly noted above, none of the cited and applied references disclose determining media display effectiveness. While Hendrey et al. discloses, to some degree, a way of determining delivered advertising effectiveness, Hendrey et al. does not per se disclose a way of determining media display effectiveness. More importantly, none of the cited and applied references teach obtaining geo data specifying a plurality of locations that track the movement of a monitoring device and an associated respondent, at least a portion of the geo data derived from a satellite positioning system, storing the geo data in the monitoring device and downloading the stored geo data to a post processing server that compares the plurality of locations that track the movement of the monitoring device with a plurality of media display locations and determining if the monitoring device was exposed to a media display based on whether any of the plurality of locations that track the movement of the monitoring device and the media display locations are sufficiently close enough to conclude that the locations match. As a result, applicants respectfully submit that Claim 14, and all of the claims dependent therefrom remaining in this application (Claims 17-45), are clearly allowable.

Applicants further submit that dependent Claims 17-45 are also allowable for reasons in addition to the reasons why independent Claim 14 is allowable. For example, none of the cited and applied references teach grooming of geo data (Claim 25) or the grooming of geo data comprising the processes recited in Claims 26-28. Nor do any of the cited and applied references teach identifying and storing anomalous geo data (Claim 29) or determining confidence rating for monitoring device locations (Claim 30). Clearly, none of the cited and applied references teach or even remotely suggest the subject matter of Claims 35-40. Consequently, as noted above, applicants respectfully submit that dependent Claims 17-45 are allowable for reasons in addition to the reasons why Claim 14 is allowable.

Claims 46-52 are submitted to be allowable since the rejection of the only independent claim in this group (Claim 46) under 35 U.S.C. § 112 has been obviated, as discussed above.

In view of the foregoing comments, applicants respectfully submit that all of the claims remaining in this application (Claims 1-14 and 17-52) are allowable. Consequently, early and favorable action allowing these claims and passing this application to issue is respectfully

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solicited. If the Examiner has any questions, he is invited to contact applicants' attorney at the number set forth below.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid and addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the below date.

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